

HOME ASSIGNMENT (2025 Batch)
BACHELOR OF COMPUTER APPLICATION (BCA)
(FIRST SEMESTER)
CENTRE FOR DISTANCE AND ONLINE EDUCATION
DIBRUGARH UNIVERSITY

(Full Marks 30 for each course)

Course : BCA – 101 (Computer Fundamentals)

Assignment – 1

Total marks : 15

1. Describe the basic computer components. 5
2. What are the five types of generation of computer? Explain. 5
3. What is an Operating System? Explain various functions of an operating system? 5

Assignment – 2

Total marks : 15

1. Write short notes on the following: 3×5= 15
 - a) Different types of printers
 - b) GUI and CLI
 - c) System Software and Application Software.

Course : BCA – 102 (Mathematics)

Assignment – 1

Total marks : 15

Each question carries 5 marks

1. Show that $A - (B \cap C) = (A - B) \cup (A - C)$
2. Define equivalence relation in detail.
3. Determine whether the relation R is a partial order on the set A
 - (i) $A = \mathbb{Z}$, and aRb if and only if $a = 2b$
 - (ii) $A = \mathbb{R}$ and aRb if and only if $a \leq b$

Assignment – 2

Total marks : 15

Each question carries 5 marks

1. Simplify $\frac{3}{1+i} - \frac{2}{2-i} + \frac{2}{1-i}$
2. Using De Moivre's theorem, find the three cube root of -1
3. Solve

$$x + y + z = 3$$

$$2x - y + z = 2$$

$$x - 2y + 3z = 2$$

Course : BCA – 103 (Business Communication and Grooming)

Assignment – 1

Total marks : 15

Each question carries 5 marks. (Answer any three)

1. Compare between oral and written communication. 5
2. What is group discussion? How would you prepare for a group discussion? 5
3. What do you mean by the format of a letter? Show it with a specimen format of any one type of business letter. 5
4. What are the principles of a good presentation? 5

Assignment – 2

Total marks : 15

Each question carries 5 marks.(Answer any three)

1. Prepare your resume for a job in an effective manner. 5
2. What are the characteristics of a good formal report? 5
3. What do you understand by time management? 5
4. What is self assessment? Discuss. 5

Course : BCA – 104 (Programming in C)

Assignment – 1

Total marks : 15

Each question carries 5 marks. (Answer any three)

1. Explain different types of loops in C.
2. Explain the process of top-down approach of problem solving.
3. Write main features of a good programming language.
4. Discuss the different types of arithmetic and relational operators.

Assignment – 2

Total marks : 15

Each question carries 5 marks. (Answer any three)

1. Explain if, if-else, nested if-else and cascaded if-else with examples and syntax.
2. Explain in detail one-dimensional and multi-dimensional arrays.
3. Explain call by value and call by reference using examples.
4. Briefly explain
 - a. Go to statement
 - b. Structure

Course : BCA – 105 (Digital Design)

Assignment – 1

Total marks : 15

Each question carries 5 marks.

1. Convert $(42.225)_{10}$ to binary number and $(110011.110)_2$ to decimal number?
2. Discuss about the Parity Bit Coding Technique.
3. What are NOR and NAND gates? Why are they called universal gates? Give truth tables for 3-input NAND and NOR gates.

Each question carries 5 marks.

1. Obtain the simplified form of the following Boolean expression using K-map. Draw the logic circuit.
$$F(A,B,C,D) = \sum(0, 1, 2, 3, 4, 5, 7, 8, 9, 11, 14)$$
2. What are the major application of multiplexers?
3. What are decoders? Draw and explain the working of a 2 to 4 line decoder.

Course : BCA – 106 [(Programming in C (Practical))]

Each question carries 5 marks. (Any three)

1. Write a program in C to find the greatest of three numbers.
2. Write a program in C to find area of a triangle and show its type.
3. Write a program in C to find a factorial of a number. (Use function)
4. Write a program in C to print first n natural numbers.

Each question carries 5 marks. (Any three)

1. Write a program in C to generate the first n Fibonacci series.
2. Write a program in C to find the maximum, minimum value in an array.
3. Write a program in C to add two matrices.
4. Write a program in C to check if a string is palindrome or not.

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